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Indian Standard

TEST CHART FOR POWER HACKSAW MACHINES (UP TO 300 mm ROUND BAR CAPACITY)

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NEW DELHI 110002

Gr 2

April 1966

Indian Standard

TEST CHART FOR POWER HACKSAW MACHINES (UP TO 300 mm ROUND BAR CAPACITY)

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 5 March 1966, after the draft finalized by the Machine Tools Sectional Committee had been approved by the Mechanical Engineering Division Council.

0.2 The manufacture of machine tools in India started during the last world war when the Government of India provided considerable assistance to the machine tool manufacturers not only by way of providing free inspection facilities but also in a number of other ways including a certain amount of guidance on manufacturing techniques. The interest of the Government of India in the development of the machine tool industry continued after the world war and the Inspection Wing of the Directorate General of Supplies and Disposals continued to provide free inspection facilities to all the interested machine tool manufacturers and issues test certificates in accordance with their existing requirements for grading of machine tools. The quality of the machine tools in general and of power hacksaw machines in particular has considerably improved during the last few years. After taking into consideration the manufacturing practices prevalent in the country and in particular with the better organized manufacturers; the Sectional Committee decided to recognize limits of accuracy as detailed in this standard. It is hoped that within a short time a much larger number of manufacturers would be able to supply freely power hacksaw machines complying with the requirements of this standard with the assistance which, it is hoped, the Government of India will organize for the benefit of interested manufacturers.

0.3 The test chart has been so prepared as to provide a convenient basis for the preparation of a proforma for preparing test certificate.

0.4 For the correct interpretation of the results, it is necessary to lay down specifications for measuring instruments, like straightedges, mandrels with taper shanks, mandrels between centres and dial gauges. Mandrels between centres and mandrels with taper shanks have been covered in IS : 2063-1962*. The following specifications for measuring instruments have already been published:

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*Code for testing machine tools.

IS : 2092-1962 Dial gauges
IS : 2103-1962 Engineers squares
IS : 2220-1962 Steel straightedges
IS : 2554-1963 Cast iron angle plates
IS : 2285-1963 Cast iron surface plates

0.5 The sequence in which the tests have been given in the standard is not obligatory. If necessary, the sequence may be changed to suit the convenience of the inspector.

0.6 In reporting the result of a test made in accordance with this standard, if the final value, observed or calculated, is to be rounded off, it shall be done in accordance with IS : 2-1960*.

1. SCOPE

1.1 This standard prescribes the limits of accuracies for hacksaw machines up to 300 mm round bar capacity.

2. TESTING INSTRUMENTS

2.1 The testing instruments shall be of the approved type and shall be calibrated at 20°C.

3. ACCURACY REQUIREMENTS

3.1 The tests to be carried out, the maximum permissible errors, the instrument required, and the manner of carrying out the tests shall be as detailed in the test chart.

3.2 The tests shall be carried out at the manufacturers' works.

3.3 The sequence of tests in which the tests should be carried out will be decided by the manufacturer.

3.4 Before carrying out the tests, the machine shall be levelled in accordance with the manufacturer's instructions which the manufacturer should supply in sufficient detail with each machine.

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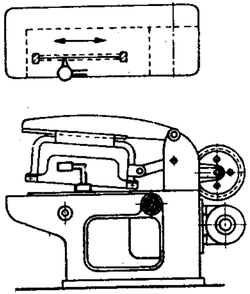
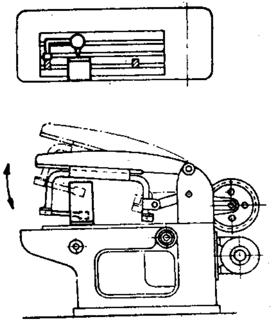
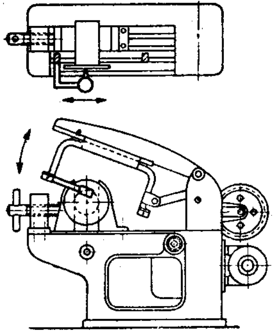
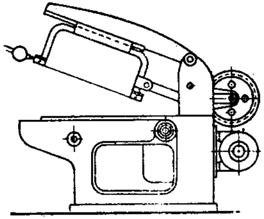
*Rules for rounding off numerical values (*revised*).

TEST CHART FOR POWER HACKSAW MACHINES (UP TO 300 mm ROUND BAR CAPACITY)

Type .... Order No. .... Customer ....

Machine No. .... Date .... Inspector ....

Sl No.	Test Item	Figure	Measuring Instruments	Permissible Error in mm	Actual Error in mm	Instructions for Testing
1.	Movement of saw carriage and over-arm assembly square with the work table in horizontal plane		Dial indicator with magnetic base and test bar	0 to 0·1/100 mm	...	Dial indicator mounted on work table as shown in the figure with its feeler scanning the test bar fixed in the saw carriage. Saw carriage moved and readings noted at two extreme points.
2.	Movement of saw carriage and over-arm assembly square with the work table in the vertical plane		Dial indicator with magnetic base and angle plate	0 to 0·1/100 mm	...	Dial indicator mounted on the saw carriage with its feeler scanning the angle plate which is fixed on the work table as shown in the figure. Over-arm assembly moved up and down and readings noted at two extreme points.

3.	Movement of the over-arm assembly square to the clamping surface of the vice		Test mandrel and dial indicator with magnetic base	0 to 0·1/100 mm	...	Dial indicator mounted on the saw carriage with its feeler scanning the face of test mandrel which is clamped in the vice. Over-arm assembly moved up and down and readings noted at two ends.
4.	Axial play of the saw carriage		Dial indicator with magnetic base	0·3 *Max*	...	Dial indicator mounted on the work table with its feeler scanning the end of saw carriage as shown in the figure. Apply a force by hand according to manufacturer's instructions in the forward and reverse direction of cutting and note the readings on the dial indicator. The crank should be at dead centre position.
5.	Cutting Test	...	...	Should cut smoothly	...	Clamp the bar which is approximately half the capacity of the machine and start the feed to cut the bar. No adjustment should be made while cutting.

(Continued from page 1)

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